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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/875,204	06/05/2001	Herbert Heyneker	018501000120	6403

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EXAMINER	
LUDLOW, JAN M	

ART UNIT	PAPER NUMBER
1743	

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/875,204	HEYNEKER ET AL.	
	Examiner	Art Unit	
	Jan M. Ludlow	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *47-63* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *47-63* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/8/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 21, 2004 has been entered.

2. Claims 47-63 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. With respect to claims 47, 53, and 56 lacking essential structural cooperative relationships, see below. In claim 50, "said plurality of exit ports" lacks antecedent basis. In claims 50 and 63, it is unclear how the "vacuum line adapted to drain liquid" relates to the "drain lines" previously recited in claims 47 and 56, respectively. In claims 52 and 57, it is unclear whether the dispensing module transfers reagents "from said plurality of reaction mounts" "to a reaction mount" as stated, or if reagent delivery is "to a reaction mount" ***selected*** "from said plurality of reaction mounts" as disclosed. In claim 53, it is unclear how the "vacuum line adapted to drain liquid" relates to the "drain lines" subsequently recited. Claim 56 contains a redundancy in that "fluid delivery" is recited twice in the second section. In claims 47, 53, and 56, "adapted to receive at least one of a plurality of reagents for synthesizing a polymer" is unclear in that it is unclear what structural properties are intended. Claim 52, 57 are unclear because it is unclear whether or not the reagents are positively recited—that is, does "adapted to

deliver..." mean that there is actually a supply of reagent(s) included in the claimed apparatus (if so, a supply should be positively recited), or is the "adaptation" merely that the apparatus COULD deliver such reagents if someone were to put them in the claimed apparatus?

4. Claims 47-63 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: There is no operative relationship between the drain system and the other elements in the independent claims.

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 47-49, 51-52, 56-57, 60-62 are rejected under 35 U.S.C. 102(b) as being anticipated by Harris et al (USP 4,871,683).

Harris et al disclose a reaction system substantially as claimed. The system comprises a carousel 12 with a plurality of reaction mounts 20 holding solid support (filter 22 or other supports (col. 4, line 26)) in well 58 arranged on the radius of the carousel, a rotator 74, 76 that rotates the carousel step-wise around the axis, a fluid delivery system 100 that delivers liquid to the reaction well, a drain system 112, 114 that drains the liquid by differential pressure from the well, optical analyzer (col. 6, lines 50-65), temperature control (col. 7, lines 25-30), and a programmable digital computer that controls the system 162 (columns 3-7, Figs 1, 4-5). The through hole 60 in the carousel which holds the reaction mount 20 constitutes the instant conduit and the portion below support 22 constitutes the chamber. In Figures 2 there is a collection volume (instant

chamber) having ribs 44, 46 in it in element 18 below the reaction mount 20, which volume is also within the carousel as shown in Figures 4, 5. Alternatively, the insertion of part 18 into the carousel "forms" the claimed conduit and chamber in the carousel. Outlet 40 protrudes from the carousel as claimed. A plurality of drain lines connected to drain receptacles 112, 149 as claimed are shown in figures 4-5, col. 6, lines 19-68. Differential pressure is by e.g., air pressure from pump 118, 148 or gravity.

6. Claims 50, 53-55, 58, 59, 63 are rejected under 35 U.S.C. 103(a) as being obvious over Harris as applied to claims above and further in view of Raysberg et al (USP 5,106,583).

Harris fails to teach plural wells per mount or radially moveable dispense heads or movement of the drain receptacles 112, 149.

Raysberg et al teach a carousel 19 with a plurality of reaction mounts with reaction wells 3 arranged on the radius of the carousel, a rotator that rotates the carousel step-wise around the axis (column 4, lines 32-41), a fluid delivery system 33 that delivers liquid to the reaction wells, a drain system 35 that drains the liquid by differential pressure from the wells, a programmable digital computer that controls the system 153 (columns 3-7, Figs 1, 4-5). The fluid delivery system is moveable radially as shown at arrow 113 of Figure 1d, and into and out of engagement with the mount (col. 2, lines 40-50).

It would have been obvious to provide plural reaction wells in a sample mount of Harris as taught by Raysberg in order to increase carousel capacity. It would have been obvious to make the dispenser of Harris radially moveable as taught by Raysberg

in order to access the mounts and/or remove the dispenser from the carousel as shown by Raysberg. It would have been obvious to move the drain 112 of Harris with respect to the carousel in order to use vacuum instead of or in addition to pressure to drain the mounts as taught by Raysberg.

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 47-48, 50-52, 56-61 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 6264891. Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations of the instant claims are found within the narrower patented claims.

9. Applicant's arguments filed December 21, 2004 have been fully considered but they are not persuasive.

10. Applicant argues that claims 47, 52 and 57 positively recite the reagents, but such is not the case. In a simple analogy, the examiner explains thus: "A jar adapted to contain peanut butter" is just a jar, but "A jar containing peanut butter" is a jar with

peanut butter in it. The first example does not positively recite "peanut butter" (even though the words appear), whereas the second example does.

11. Applicant argues that Harris does not teach a plurality of drain lines, acknowledging only chamber and conduit 112 and 114 in Figure 4, but the line through the optical cell 152 and valve 160 in Figure 5 is also a drain line, making a plurality. It is also noted that Harris teaches that the substrate station 130 is "similar to wash station 100" and the examiner would argue that it would have been obvious to include a drain to remove excess substrate, especially since the "read station 132 is also similar to the wash station 100" and it includes drain 149 as shown in fig. 5 (col. 6, lines 38-50). Applicant argues that Harris teaches a system for performing clinical assays, not "synthesizing a polymer", but applicant continues to argue intended use, even after having deleted the intended use from the preamble of the claims. Applicant argues that Harris does not teach liquid conduits as claimed, but the through holes into which the mounts are inserted are the conduits. In Figures 2 there is a collection volume (instant chamber) having ribs 44, 46 in it in element 18 below the reaction mount 20, which volume is also within the carousel as shown in Figures 4, 5. Alternatively, the insertion of part 18 into the carousel "forms" the claimed conduit and chamber in the carousel.

12. Applicant argues that neither Harris nor Raysberg teaches synthesizing a polymer, but the instant claims are apparatus claims, not method claims, and the intended use of the apparatus is not seen to limit its structure. Applicant argues that neither reference teaches reagents for synthesizing a polymer, but the reagents are not positively recited elements of the invention, as explained above. Applicant argues that

neither reference teaches raising the drain element, but Raysberg so teaches, e.g., at col. 4, lines 50-60..

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jan M. Ludlow whose telephone number is (571) 272-1260. The examiner can normally be reached on Monday-Thursday, 11:30 am - 8:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jan M. Ludlow
Primary Examiner
Art Unit 1743

Jml
February 21, 2005